

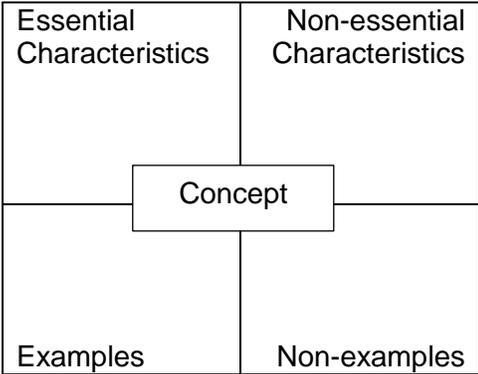
Literacy T-Chart Frayer Model

CIP 15.1301 Drafting & Design Technology/Technician, General

Determine the meaning of symbols and vocabulary as they are used in a specific context.

Program Task: 902: Construct a Floor Plan.	PA Core Standard: CC.3.5.11-12.1 Description: Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
--	---

Program Associated Vocabulary: Blueprints Floor plan Elevation Pictorial view Architectural drawing Scale usage Floor plan symbols	Reading Associated Vocabulary: Essential characteristics Non-essential characteristics Examples Non-examples
--	---

Program Strategy: Use the Frayer Model strategy to ensure that students develop a deep understanding of key concepts. Have students generate a list of floor plan symbols that they have been using to produce their scaled drawings. The list should be as extensive as possible. Introduce the Frayer Model strategy. Then have students work in teams to complete a Frayer Model for “floor plan symbols.” Lead them in discussing the list they generated as a way to characterize the entire group. Have teams share their Frayer Model templates with the class to make sure that students understand what constitutes floor plan symbols before beginning the task.	Literacy Strategy: Frayer Model is used only for key vocabulary concepts. Students begin the graphic organizer before reading, but will re-visit it as they learn additional information. This is especially useful as students read multiple texts on the same concept and collect varying information. 
---	--

Program Strategy:

Apply their understanding of floor plan symbols in the following task.

Scaled Floor Plan Drawing

Draw to scale, using a 1/4 inch equals one foot, the floor plan of a home in which you might live. Produce drawings for a 1,200 sf-1,500 sf single level residential floor plan that includes three bedrooms, two baths, living, dining/breakfast area, kitchen, utility room and garage.

- Use the accepted drafting standards.
- Your work should reflect an understanding of space planning, door and window types, floor plan symbols and floor plan dimensions.
- Use a tape measure, locate all doors and windows in their exact locations, list the dimensions of all doors and windows, list the dimensions of length and width of all rooms exactly and correctly spell the names of all rooms.
- These drawings will later be created online using drafting software.

Literacy Strategy:

Whole Group

Show the model for the whole class and briefly discuss what goes into each section. Add a simple concept that all students should have some experience with (e.g., toy, dinner) and ask them to jot down notes for what they think each quadrant would contain.

After a minute or two for thinking, facilitate student responses for items to go into each quadrant. Guide their thinking by asking questions of some entries: Is dinner served at a time other than night in some sections of the country? Does a toy have to be reusable? This phase of the lesson should take no more than 10 minutes.

Guided Practice

Distribute a short reading (one or two paragraphs) about a topic that was studied earlier in the year or is generally known, but not part of this lesson (e.g., democracy, photosynthesis). Direct students to read the passage individually and complete a Frayer Model. Ask students to collaborate with a shoulder partner to determine what should be in the Frayer Model. Then ask pairs to contribute to the whole class model. Challenge students with questions to make sure that they are adding only what has come from the reading.

Application

Identify key concepts for the current unit or project. After reading provided or student-identified texts, have students complete Frayer Model templates for each key concept.

Students should keep their on-going Frayer Models in their class notebooks or folders. Periodically, check student work to determine if they are adding to their understanding of the concept by reading or class experiences.

In debriefing, use the following questions:

- How did you (your group) complete the categories? Think about your thinking – Why did you categorize them the way you did?
- Why will it be important to know which characteristics are essential and which are not?
- Why is it important to identify non-examples that could be confused with examples?

Program Strategy:	Literacy Strategy:
	Listen for: <ul style="list-style-type: none"> • Justification for categories. • Understanding why knowing the difference in the terms is important. • Understanding that some students had background about the concept that may be accurate or not. • Relying only on the texts for information. • This activity is teaching reasoning skills of classification and deduction.

Instructor’s Script – Frayer Model

Being able to correctly characterize key concepts is an important skill. Thinking deeply about what defines processes, equipment or products is essential to many advanced development processes.

The Frayer model provides a visual map for students to clarify their understanding of scaled floor drawings. Discussing examples and non-examples is especially useful for students with different learning styles.

Common Mistakes Made by Students

In this strategy, students often consult (and copy) a dictionary or glossary definition for the meaning of words and then do not consider the possible complexities of key terms.

In the Frayer Model, students often look for only the most obvious answers. For instance, they may say that a non-example for a table is a car or a person. Students need to think more deeply and identify examples could be considered in the same class of objects or concepts. A non-example of a table might be a desk—something that is similar but typically has different purposes. If essential characteristics of a chair are that it has a back, seat and legs, then a milk stool would be a non-example because it does not have a back although it has a seat and legs.

Although symbols are straightforward, as students continue reading different texts and applying the information to new content, they may need deeper conversations to determine if their initial entries are correct or need adjusting.

CTE Instructor’s Extended Discussion

Once students complete their scaled drawings, have them create a presentation plan and draw elevations to give them a better sense of how their space comes together. Start by adding a fireplace. This will allow the students to see their drawings from other viewpoints.

Sample Questions

Career and Technical Concepts

Question	Answer
<p>Drawing a floor plan to scale is a critical part of the design process and can be greatly helpful for visualizing things like:</p> <ul style="list-style-type: none">A. Furniture layoutB. LandscapingC. Wall heightD. Emergency exit plans	A. Furniture layout

PA Core Reading Concepts

Question	Answer
<p>Read the paragraph below and then answer the question that follows:</p> <p>Architecture is both the process and the product of planning, designing, and constructing buildings and other physical structures. Architectural works, in the material form of buildings, are often perceived as cultural symbols and as works of art. Historical civilizations are often identified with their surviving architectural achievements.</p> <p>Which of the following is a non-essential characteristic of architecture?</p> <ul style="list-style-type: none">A. Process of planning, designing and constructing buildingsB. Views buildings as cultural symbolsC. Includes constructing buildings and physical structuresD. Blueprints of important buildings	A. Views buildings as cultural symbols